

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number
WO 2005/002873 A1

(51) International Patent Classification⁷: **B42D 15/10.**
B44F 1/12

(21) International Application Number:
PCT/AU2004/000917

(22) International Filing Date: 7 July 2004 (07.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003903501 7 July 2003 (07.07.2003) AU

(71) Applicant (for all designated States except US): **COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION** [AU/AU]; Limestone Avenue, Campbell, Australian Capital Territory 2612 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DAVIS, Timothy, John** [AU/AU]; 6 Riverside Road, Ivanhoe, VIC 3079 (AU). **LEE, Robert Arthur** [AU/AU]; 13 Wilkinson

Street, East Burwood, Victoria 3151 (AU). **MCCARTHY, Lawrence David** [AU/AU]; 13 Wren Drive, Noble Park North, Victoria 3174 (AU). **SWIEGERS, Gerhard Frederick** [AU/AU]; 17 Delacombe Drive, Vermont South, Victoria 3133 (AU). **WILSON, Gerard, Joseph** [AU/AU]; 13/79 Oxford Street, Collingwood, VIC 3066 (AU).

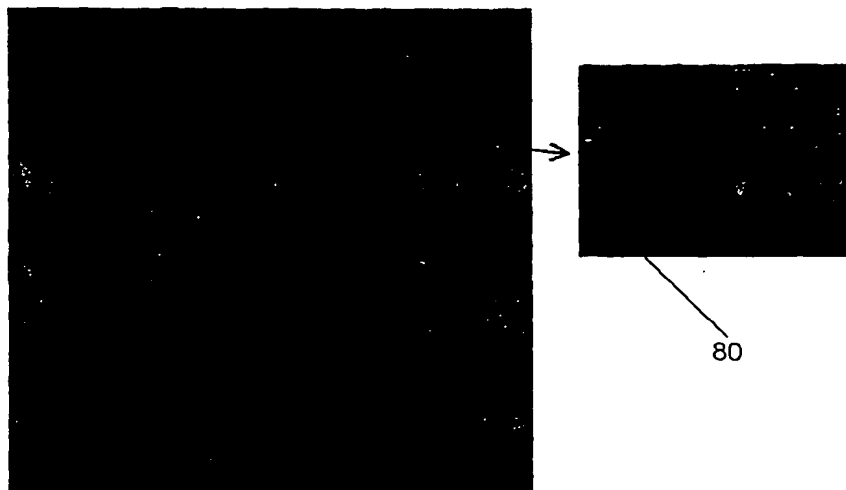
(74) Agent: **GRIFFITH HACK**: 509 St Kilda Road, Melbourne, Victoria 3004 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: A METHOD OF FORMING A REFLECTIVE DEVICE



(57) Abstract: There is disclosed a method of forming a reflective device which generates an optically variable image which varies according to the angle of observation. The method comprises the steps of providing a primary pattern which encodes a latent image, the primary pattern having a plurality of image elements, and providing a corresponding secondary pattern which will decode the primary pattern to allow the latent image to be observed when the primary and secondary patterns are in at least one registration, wherein the secondary pattern is provided by a micro mirror array (MMA) having a plurality of each of at least two different types of micro mirror elements, wherein the primary pattern is provided such that predetermined image elements of the primary pattern render reflection effects from predetermined micro mirror elements of the MMA optically ineffective at least at one observation angle when the reflective device is illuminated with a light source to thereby enable the latent image to be observed.



WO 2005/002873 A1

BEST AVAILABLE COPY



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*